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OnOnline-Education Study Reaffirms Value of Good Teaching, Experts Say

By DAVID GLENN

In a much-debated 1983 essay on distance learning, Richard E. Clark, a professor of educational psychology at the University of Southern California, argued that it was beside the point to ask whether distance education is better or worse than the traditional classroom. The medium isn't the crucial variable, Mr. Clark wrote. What is important is to look at the effectiveness of specific instructional strategies, regardless of how those strategies are delivered.

Last week, more than 25 years after Mr. Clark's provocation, the U.S. Department of Education released a report that, at least at first glance, carries a strong message about the medium: Students learn more effectively in online settings. Most powerful of all appear to be "blended" courses that offer both face-to-face and online elements. Previous research has generally found that online and offline courses are equally effective.

But even though the report, which synthesized data from several dozen high-quality studies, was framed and publicized as a circuit board-versus-chalkboard showdown, its authors do not view themselves as having flouted Mr. Clark's principles. On the contrary: Mr. Clark served as a technical adviser to the project, and the report's lead author says that Mr. Clark's basic insights are correct.

"This report should not be interpreted as saying that one medium is better than another," says Barbara Means, a director of the Center for Technology in Learning at SRI International, a California research firm that conducted the project under contract with the Education Department. "This should not be interpreted as saying that computers are better than professors."

Instead, Ms. Means says, the study offers evidence that particular kinds of online instructional techniques are effective—and some of those techniques, she suggests, could theoretically be imported into old-fashioned chalkboard classrooms. For example, the study found that in online courses, students often spend more time directly engaging with the course content than do their counterparts in traditional classrooms. But in theory, there is no reason why traditional courses could not be redesigned to increase students' "time on task."

In other words, it's the instructional technique that matters, not the technology, just as Mr. Clark proposed decades ago.

Or, to put it another way: If online courses are more effective than their face-to-face counterparts, it may be because the new setting forces instructors to break out of stale teaching habits, and not necessarily because computers are an intrinsically superior medium.

Asking the Right Questions

"When you go online, you tend to have to think about how to actually present the class and how to do it," says Lloyd Armstrong Jr., provost emeritus at Southern California. "You're more likely to turn to experts in learning theory."

Mr. Armstrong, who writes a blog called Changing Higher Education, calls the new Education Department report "incredibly important," but he says there is probably not much point in framing future studies as comparisons between traditional and online courses. It has been well established that online education can be effective, Mr. Armstrong says; what we need now are studies that focus on effective techniques in both old-fashioned and high-tech settings.

One scholar who has tried to do that is Robert M. Bernard, a professor of educational technology at Concordia University, in Montreal. Mr. Bernard is the lead author of a meta-analysis that will appear this year in the *Review of Educational Research.* His analysis synthesizes 74 recent studies of variations in online-education models.

"We've tried to look at which kinds of interactions have the best effect," says Mr. Bernard. Among other things, Mr. Bernard and his colleagues found that online elements that encourage student-teacher interaction have better effects on learning than do elements that encourage student-student interaction.

"We were disappointed to find that," Mr. Bernard says. "It may be just that we're not that far along in knowing how to design student-centered classrooms online, and how to get students to talk to each other in effective ways."

Kenneth R. Koedinger, a professor of computer science at Carnegie Mellon University and co-director of the Pittsburgh Science of Learning Center, agrees that crude comparisons between online and traditional classrooms are not useful.

"That's much too coarse a question," Mr. Koedinger says. "It's like asking if medicine is better than nonmedicine. If I take the wrong pill, that's not going to help."

For several years, Mr. Koedinger's center has invited researchers to conduct controlled education-technology experiments in real-world college and high-school classrooms. In these experiments, scholars manipulate a single narrow element of the course. For example, an experimental group of students might have access to an online interface for asking each other questions about the course material, while the control group would not.

By focusing on those narrow variables, Mr. Koedinger says, researchers can incrementally build models of the most effective ways to deploy technology.

Putting Results to Work

Some scholars believe that we already know a great deal about those effective models, and that the real challenge is persuading colleges to invest in them. "In my view, rather than continually

researching the same questions, I'd like to see broad-based dissemination programs of successful practice," says Carol A. Twigg, president and chief executive of the National Center for Academic Transformation. Her center has worked with dozens of universities on studies that deploy technology to improve student learning in first-year courses.

Mr. Armstrong, of Southern California, makes a similar argument. Colleges, he says, are failing to take advantage of instructional technologies that could make education more affordable. "I just feel indignation about this report this week that the average tuition increase for next year is 'only' 4.3 percent," he says. "That just tells me again that the business model of higher education is broken."

Mr. Armstrong would like to see more work in the vein of Ms. Twigg's center—that is, efforts to use technology to improve student success and reduce instructional costs in 500-seat introductory courses. "We need to do two things," Mr. Armstrong says. "We need to bring down costs, and we need to do better at doing our job in terms of student learning. Doing those two things simultaneously—that's what government research should concentrate on."

Mr. Bernard, meanwhile, stresses that there is sometimes no substitute for old-fashioned classroom engagement, especially with younger and less mature students. "You might have e-mail or video exchanges," he says, "but that really is not the same as me sitting down with you and saying, 'Hey, guy. You're screwing up. You're not going to finish this course unless you get your act together.'"